

Montana DEQ Forest Fire Smoke Advisory

August 31, 2007

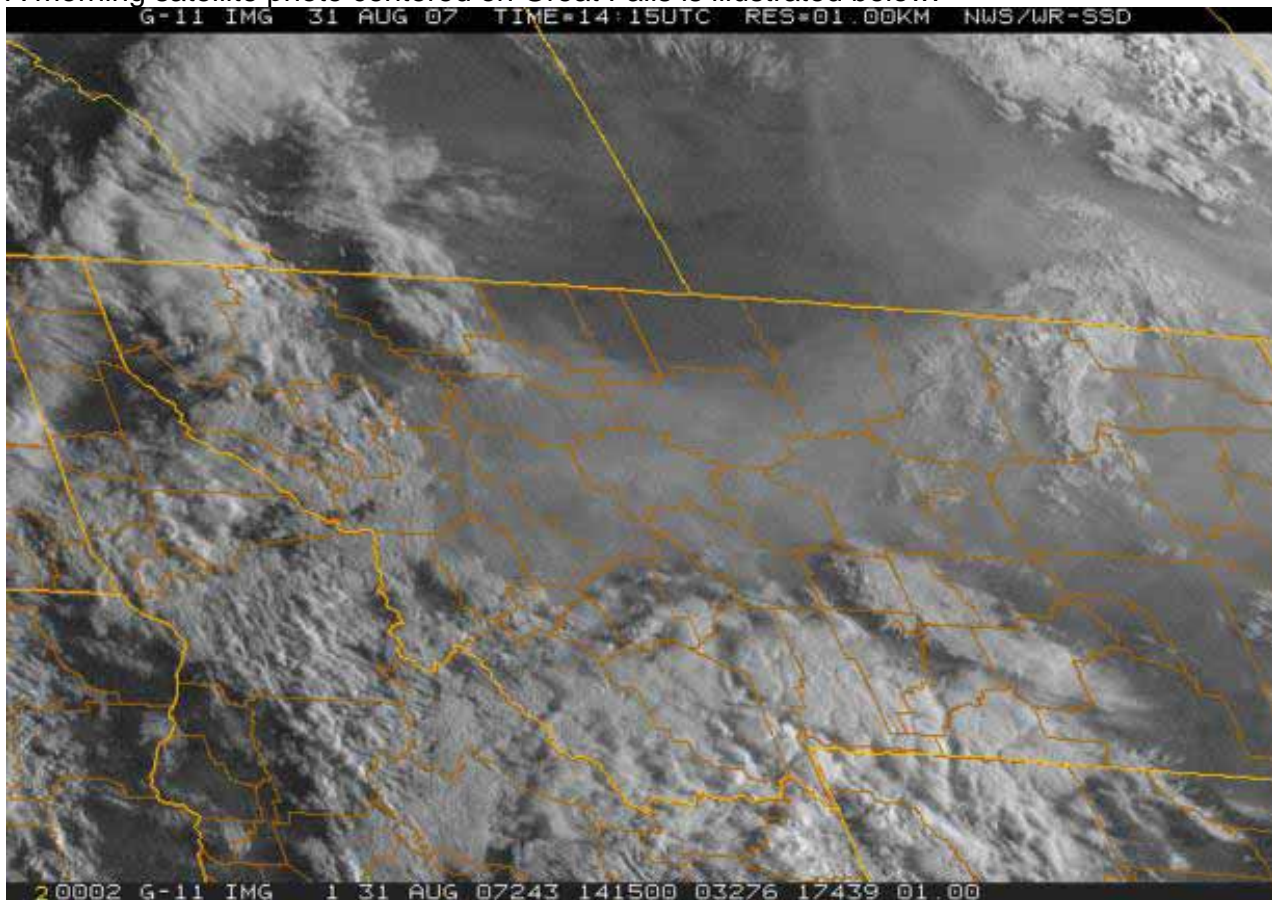
10:00 AM Friday

FORECAST:

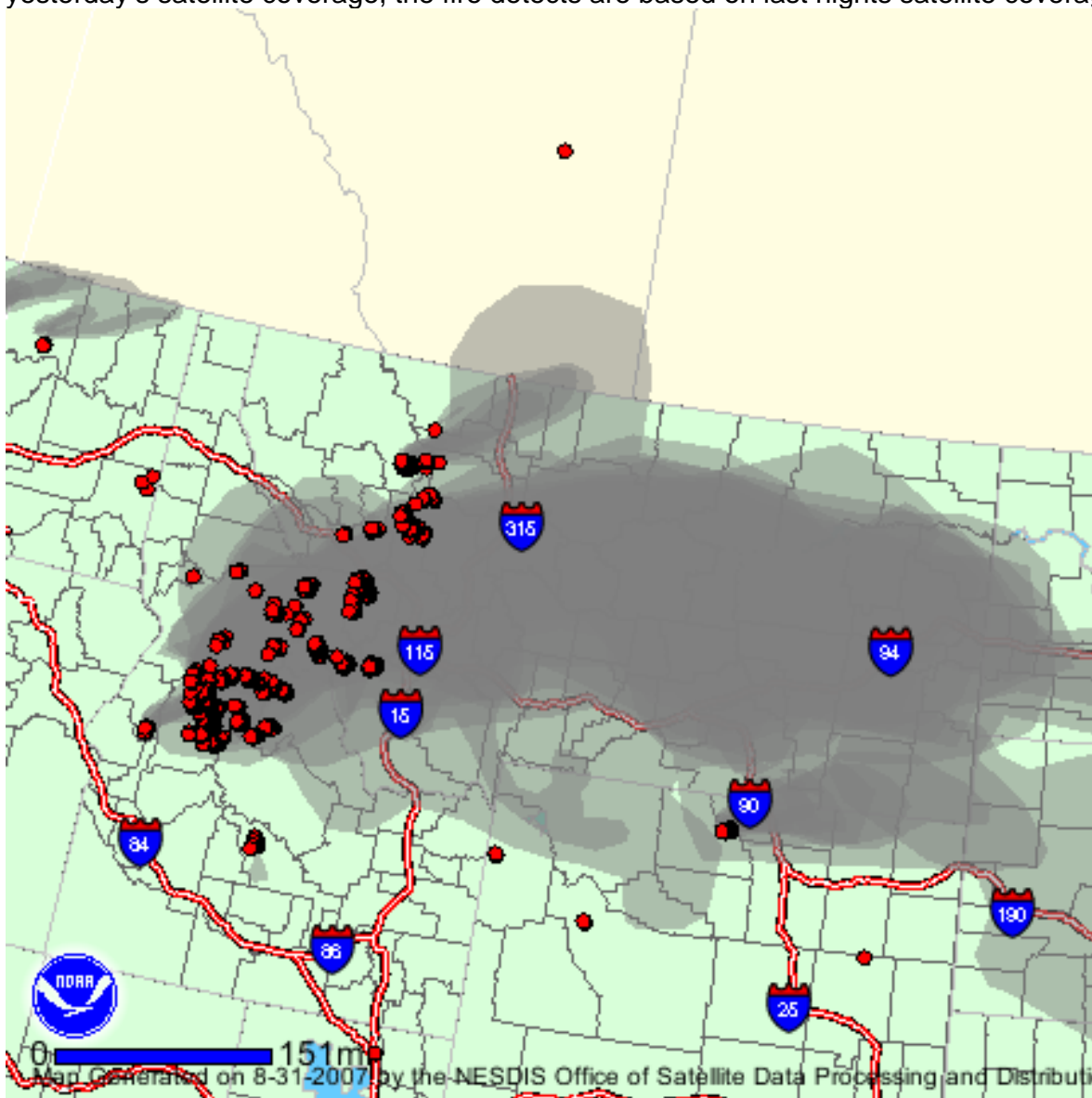
Daily dispersion rates are steadily decreasing as the sun angle lowers and the days shorten up heading into fall. This has allowed a substantial build up of smoke in the valleys with active fires. Very Unhealthy conditions are present in the Bitterroot, Missoula, Big Hole, Rock Creek/Flint Creek, and Clark Fork Valleys. East of the divide along the Front Range and out into the western plains the conditions are not as bad but still Unhealthy. A dense plume of smoke aloft is clearly visible across the central part of the state this morning. There is even more smoke below the clouds in western Montana.

A continuing push of clouds and warm air from the southwest ahead of a trough approaching western Montana should improve the dispersion later this afternoon in most areas. Convective activity along with some wetting rains in the northwest should improve conditions in the Flathead substantially. Other areas should see an improvement as well but with some Red Flag warnings for gusty winds and mostly dry thunderstorms in the southwest, smoke will continue to be a problem throughout the day today. Direct plume impacts from local fires could be a problem this afternoon and evening. Residents near active fires or experiencing noticeable smoke levels should use the [VISIBILITY GUIDELINES](#) to determine smoke levels in their area and guide their activity decisions.

A morning satellite photo centered on Great Falls is illustrated below:



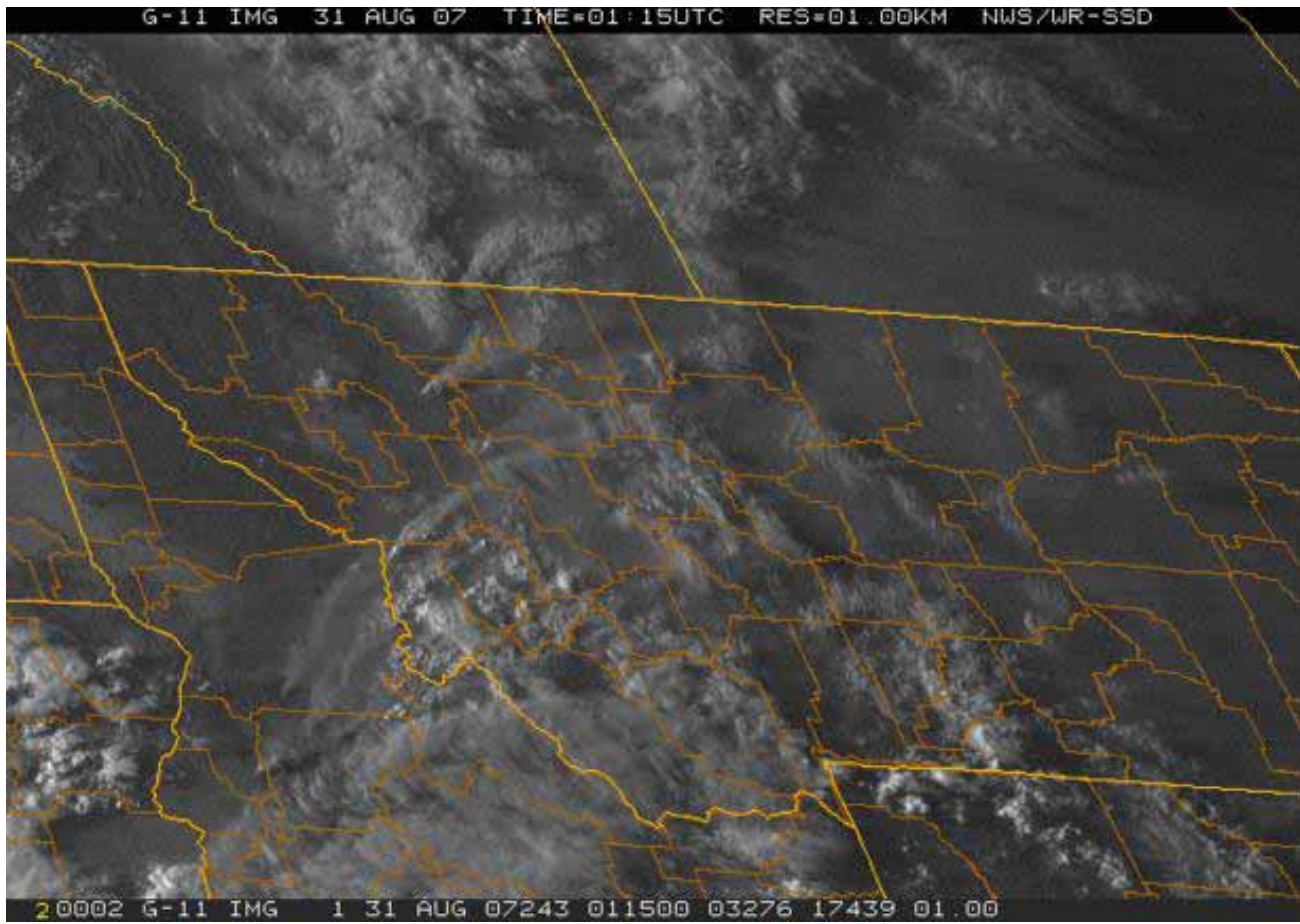
This morning's analysis from NOAA's satellite services division shows the active fires in Montana and the smoke plumes combining and spreading downwind (the analyzed smoke is based on yesterday's satellite coverage, the fire detects are based on last night's satellite coverage).



Red indicates hot spot detected. Grey represents smoke seen by satellite. Fire size is exaggerated for visibility at this scale

To identify individual fires on graphic above go here:
http://activefiremaps.fs.fed.us/lg_fire2.php

This satellite photo taken at 7:15 PM last night shows the smoke plumes from the fires in Idaho and western Montana that combined into the plume aloft visible on this morning's satellite photo.



This morning's smoke report is below, comparing particulate levels where we have information to MDEQ's Forest Fire health advisory levels.

<http://www.deq.state.mt.us/FireUpdates/SmokeCategories.asp>

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DISCUSSION:

Increased fire activity levels have combined with strong nocturnal inversions to produce VERY UNHEALTHY levels of smoke in Missoula, Hamilton, and Butte. UNHEALTHY levels are currently impacting Whitefish, Helena, Choteau, Augusta, and Great Falls. The smoke in the northern Flathead is sloshing around and has missed Kalispell for the last several hours and they are currently at MODERATE. Smoke conditions in the Rock Creek/Flint Creek valleys and the Big Hole valley are expected to be UNHEALTHY or worse. Southwest flow will continue into the state today and with Red Flag warnings out more smoke can be expected. Dispersion should improve markedly later this afternoon along with convective activity and a good chance of measurable rain in the northwestern part of the state and the northern Rockies. Smoke will mix down and be noticeable at the surface under the plume aloft later this morning. The advisories in the table below represent conditions between midnight and 8 AM and may change substantially through the day. Residents downwind of the active fires and experiencing impacts from residual smoke will

need to pay close attention to conditions in their area and use the visibility guidelines to determine current conditions.

John Coefield
Meteorologist
Montana Department of Environmental Quality

Locations and severity of forest fire smoke reports since midnight of the date above at reporting stations.

Real time particulate information is currently available in most of the larger urban areas from several different sources including: DEQ run PM-10 BAMS and PM2.5 BAMS, CS&KT run PM-10 TEOMS, NWS ASOS visibility monitors, and USFS remote access Nephelometers and BAMS.

Updated 10 AM August 31, 2007

These advisories represent conditions between midnight and 8 AM and may change substantially through the day

<u>HAZARDOUS</u>	
<u>VERY UNHEALTHY</u>	Missoula T24 Hamilton T24 Butte T24
<u>UNHEALTHY</u>	Whitefish T24 Helena T8 Choteau T24 Augusta T8 Great Falls Vis(8)
<u>UNHEALTHY FOR SENSITIVE GROUPS</u>	
<u>MODERATE</u>	Kalispell T1

T1(x) One-hour TEOM or BAM value (number of values)
T8(x) Eight-hour average TEOM or BAM value(number of values)
T24 24 hour average TEOM or BAM value
Vis(x) Visibility value(number of hours)
Vis(am/pm) Visibility value from twice/day reporting stations
(est) estimate

Local impacts in areas immediately adjacent to active fires are expected to exceed some or all of the advisory levels. DEQ recommends the use of local visibility guidelines <http://www.deq.state.mt.us/FireUpdates/VisibilityRanges.asp> to evaluate possible health risks and make informed activity decisions.